



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

11/8

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,079	06/27/2003	Timothy J. Parker	3239P106	7575
8791 7590 06/28/2007 BLAKELY SOKOLOFF TAYLOR & ZAFMAN 1279 OAKMEAD PARKWAY SUNNYVALE, CA 94085-4040			EXAMINER CAVALLARI, DANIEL J	
			ART UNIT 2836	PAPER NUMBER
			MAIL DATE 06/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/609,079	Applicant(s) PARKER ET AL.	
	Examiner Daniel J. Cavallari	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 11, 12, 15, 16, 18-23, 25-28, 32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) 4-10, 13, 14, 17, 20, 24, 29-31 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 12, 15, 16, 18-23, 25-28, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/12/2007 has been entered.

Response to Arguments

Applicant's arguments filed 4/12/2007 have been fully considered but they are not persuasive.

The applicant argues that Elkayam et al. (hereinafter referred to as Elkayam) "does not describe the claimed elements of a connection module, which is now explicitly identified as a component mounted to a circuit board" and further argues "In summary, the connection module as claimed should not be constructed as the circuit boards themselves..." The Examiner points out that the connection module (11 & 24) is connected to circuit board (switch board, 14) and thereby mutes the argument that it is the circuit boards themselves being referenced. The Examiner respectfully disagrees and affirms that Elkayam does in fact teach a connection module mounted to a circuit board.

Allowable Subject Matter

The indicated allowability of claims 19 & 21-23 are withdrawn. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation of "IEEE 802.3af" recited in the claim is indefinite. The Examiner notes that the IEE standard IEEE 802.3af was still in draft form as of April 2003 and the applicant claims benefit back to February 2003. Furthermore, the Examiner notes that IEEE standards are frequently amended, thereby rendering it's recitation in the claim indefinite. The Examiner notes that without a date to which the standard is being referenced, it's recitation is indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

Art Unit: 2836

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 11, 12, 15, 18, 25-28, 32, & 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Elkayam et al. (US 2003/0099076 A1).

In regard to Claims 1 & 2

A connector module (11 & 24) being connected to a circuit board (read on by switch board 14, See Figure 2) comprising:

- At least one Ethernet jack (24) adapted for coupling to a link (34) (See Figure 1 & Paragraph 69-72).
- Circuitry (56) coupled to the jack (24) and configured to perform power-over-Ethernet operations for supplying power through the jack (See Figure 2 & Paragraph 69 & 76).

In regard to Claim 11

- The connector module being implemented on the circuit board (14, See Figure 2) within a switch device, read on by the switching hub (See Paragraph 32) including a housing (See Paragraph 32 & Figure 1 which shows the chassis (16) and Ethernet circuit board (14)) which encloses the connector module with at least one jack (24) accessible from a side of the housing for coupling the link (See Figure 1).

Art Unit: 2836

In regard to Claim 12

- The connector module adapted to receive DC voltage (See Figure 1 & Paragraph 18) and transmit power to an IEEE 802.3af compliant powered devices coupled to the at least one Ethernet jack (24) of the connector module (See Paragraphs 22, 71, & 76).

In regard to Claims 15 & 18

A connector module (11 & 24, Figure 2) being a component mounted on a circuit board placed in a switching device (switching hub, 15, Figure 1) comprising:

- A plurality of jacks (24) positioned along a side of the switching device (15) (See Figure 1) adapted for coupling to a link (34) (See Figure 1 & Paragraph 69-72).
- Circuitry of the component, coupled to the plurality of Ethernet jacks, to perform power-over-Ethernet operations by supplying power through each of the plurality of Ethernet jacks, the circuitry comprises a filtering circuitry (99, See Paragraph 83) and POE circuitry, read on by the output power control circuits (58) which are used to vary the amount of power supplied over any of the plurality of Ethernet jacks (24) (See Figures 2, 3, & Table I & Paragraphs 76, 79, & 80) and the PoE circuitry (58) attached to the filtering circuitry (99) (See Figure 4).
- The POE circuitry (58) being coupled to the transformer (See Paragraph 75) [the Examiner notes that the connectors are described as coupled to the transformer, which are coupled to the support circuitry (55) which are coupled to the power

Art Unit: 2836

distribution and control circuitry (56) which are coupled to the output power control (58) (See Paragraph 75)].

In regard to Claim 25

A switching device including a connector module (11) being a component mounted on a circuit board (14) implemented within the switching device (12) the switching device comprising:

- A housing (See Paragraph 32 & Figure 1 which shows the chassis (16) including at least one jack (24) (See Figure 1) formed in the housing and power over Ethernet circuitry (55) contained within the housing and directly coupled to the at least one jack (24) (See Figure 2).

In regard to Claim 26

- Wherein the connector module is an Ethernet jack module (See Paragraph 69) with the PoE circuitry (55) of the connector module is mounted on a circuit board (14) (See Figure 2 & Paragraph 73).

In regard to Claim 27

- Wherein the housing further includes an output (24) to supply power to a first connector module (30) neighboring the connector module (15) (See Figure 1).

Art Unit: 2836

In regard to Claim 28

- Wherein the housing further includes an input to receive power from a second connector module (36) neighboring the connector module (15) so as to form a cascading connection between the first neighboring connector module (36) and the second neighboring connector module (30) (See Figure 1).

In regard to Claim 32

- See arguments above for claims 27 & 28.

In regard to Claim 32

Wherein the housing comprises:

- A first input (40) adapted to receive power from a first neighboring connector module (51) and a first output (24) adapted to provide power to a second neighboring connector module (See Figure 2).

In regard to Claim 33

- Wherein the housing further comprises a cascade serial communication interface (42, See Figure 2 & Paragraph 72) adapted for coupling to a serial interface of the first neighboring connector module (51)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elkayam et al. & Binder (US 2005/0047431).

Incorporating all arguments above of the connector module taught by Elkayam, Elkayam teaches connectors used to connect to computer devices (See Figure 2 & Paragraph 69) but fails to explicitly teach the type of connector (24) used.

Binder teaches a LAN outlet with POE capability (See Claim 47) in which an RJ-45 type connector is used (See Paragraphs 5 & 26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the RJ-45 type connector as the specific connector (24) in the invention of Elkayam. The motivation would have been to use a specific connector well known and used in the industry (See Binder, Paragraph 26).

Claims 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Elkayam et al. & Pannell et al. (US 6,977,507)

Incorporating all arguments above of the connector module taught by Elkayam, Elkayam fails to teach the use of LED indicators for the status indication of the jacks.

Pannell et al. (hereinafter referred to as Pannell) teaches a network device (300) with a plurality of RJ-45 jacks (See Column 8, Lines 55-61) and the status of the jacks are displayed using LED's in which each jack has a corresponding LED (See Column 8, Line 62 to Column 9, Line 10) and the corresponding LED operates in a first state when the link is disconnected and a second state when the link is coupled.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the LED display taught by Pannell in which to indicate the jack status of the invention of Elkayam. The motivation would have been to provide a visual means of the status of the devices.

Claims 19, & 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elkayam et al.

A Power-Over-Ethernet- (POE) circuit adapted for controlling power supplied over a plurality of Ethernet jacks, the PoE circuit comprising:

- A plurality of voltage sensing contacts (read on by the Ethernet jacks 24, See Figure 1 & Paragraphs 76 & 88) each to detect whether a powered device is coupled to an Ethernet jack of the plurality of Ethernet jacks corresponding to the voltage sensing contact [The Examiner notes that Elkayam teaches detecting whether a device is connected using voltage sensing contacts ((24) which

transmit a signal "signature" to identify when a powered device is connected (Paragraph 76) and to prioritize the plurality of Ethernet jacks (read on by determining if the connected device exceeds set power limits, See Paragraph 88).

- A first contact (read on by AC/DC In plug of Figure 1) to receive a predetermined direct current (DC) voltage from a power supply (See Figure 1).
- A first interface (read on by control and communication circuit 132, Figure 1) to receive control information for managing power transmissions by the PoE circuit (See Paragraph 88).
- A second serial interface (read on by control and communication circuit 132, Figure 1) adapted for coupling to a first serial interface of a neighboring PoE circuit [The Examiner notes that there are a plurality of output power controllers (See Figure 2 & Paragraph 76) which are subsequently coupled together via the board (56).

Elkayam teaches a first and second interface (132) but fails to explicitly teach the connection of the interface. Elkayam further teaches a serial interface provided between the switch board (14) and main power supply board (11) (See Paragraph 72).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the serial communication as taught between the switch board and main supply board with the control and communication circuit (132). The motivation would have been to reduce components and circuit complexity by

Art Unit: 2836

requiring fewer pins and wires needed with serial communication which is a well known standard communication protocol used in the art.

Elkayam further teaches:

In regard to Claim 21

- A plurality of contacts (read on by Ethernet connectors (24, Figure 1) each adapted for coupling to one of a plurality of switches (80, See Figure 4) for controlling the amount of current flowing into a powered device coupled to one of the plurality of Ethernet jacks (See Paragraph 88), an interruption of current flow into the powered device causes no power to be transferred to the powered device from the one of the plurality of Ethernet jacks [The examiner notes that if the input power to the Ethernet is disconnected (interrupted) then no power is supplied to the connected devices, See Figure 1].

In regard to Claim 22

- A second contact (read on by the power connection of 34 to power supply 52 (See Figure 2) to receive a logic signal (voltage level) from the power supply to indicate whether the power supply is working properly [The Examiner notes the voltage of the input power represents a logic signal as this signal is monitored and causes the device to switch to backup power if under a certain threshold (See Paragraph 73)].

Art Unit: 2836

In regard to Claim 23

- A second contact (read on by the power connection of 34 to power supply 52 (See Figure 2) that when placed in a predetermined logic state (ie. above a predetermined voltage level) indicates to the neighboring PoE circuit that the power supply is working properly [The Examiner notes the voltage of the input power represents a logic signal as this signal is monitored and causes the device to switch to backup power if under a certain threshold (See Paragraph 73)].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

June 14, 2007

A handwritten signature in black ink, appearing to read 'M. Sherry', followed by the date '6/22/07' written in a similar cursive style.

MICHAEL SHERRY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800